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24737 7590 10/04/2010

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BRIARCLIFF MANOR, NY 10510

EXAMINER

SAINT CYR, LEONARD

ART UNIT

PAPER NUMBER

2626

DATE MAILED: 10/04/2010

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/532,469

04/22/2005

Fabio Vignoli

NL 021053

1612

TITLE OF INVENTION: CONTROLLING AN APPARATUS BASED ON SPEECH

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	01/04/2011

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE
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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

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24737 7590 10/04/2010

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I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/532,469	04/22/2005	Fabio Vignoli	NL 021053	1612

TITLE OF INVENTION: CONTROLLING AN APPARATUS BASED ON SPEECH

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	01/04/2011

EXAMINER	ART UNIT	CLASS-SUBCLASS
SAINT CYR, LEONARD	2626	704-275000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
- 3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s); (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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10/532,469	04/22/2005	Fabio Vignoli	NL 021053	1612
24737	7590	10/04/2010	EXAMINER	
PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510			SAINT CYR, LEONARD	
			ART UNIT	PAPER NUMBER
			2626	
DATE MAILED: 10/04/2010				

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 497 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 497 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Notice of Allowability	Application No.	Applicant(s)	
	10/532,469	VIGNOLI, FABIO	
	Examiner	Art Unit	
	LEONARD SAINT CYR	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 07/12/10.
2. ☒ The allowed claim(s) is/are 1, 3 - 20.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| <p>1. <input type="checkbox"/> Notice of References Cited (PTO-892)</p> <p>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</p> <p>3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date ____</p> <p>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material</p> | <p>5. <input type="checkbox"/> Notice of Informal Patent Application</p> <p>6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date ____.</p> <p>7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment</p> <p>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</p> <p>9. <input type="checkbox"/> Other ____.</p> |
|---|--|

/Leonard Saint-Cyr/
Examiner, Art Unit 2626

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with applicant's representative, Dicran Halajian on 09/16/10.

The application has been amended as follows:

Claim 2 has been cancelled, and claims 1, 3 – 5, 9 – 14, and 20 have been amended as follow:

1. A ~~speech control unit~~ **system** for controlling an apparatus on basis of speech, comprising:

a microphone array, comprising multiple microphones for receiving respective audio signals;

a beam forming module for extracting a speech signal of a user, from the audio signals as received by the microphones, by means of enhancing first components of the audio signals which represent an utterance originating from a first position of the user relative to the microphone array;

a speech recognition unit for creating an instruction for the apparatus based on recognized speech items of the speech signal; and

a keyword recognition system for recognition of a represented by a particular audio signal;

~~the~~ a speech control unit being arranged to control the beam forming module, on basis of the recognition of the predetermined keyword, in order to enhance second components of the audio signals which represent a subsequent utterance originating from a second position of the user relative to the microphone array;

wherein the recognition of the predetermined keyword at the second position calibrates the beam forming module to follow the user from the first position to the second position so that the subsequent utterance originating from the second position are accepted while utterances of other users at other positions are discarded, the second position including an orientation and a distance relative to the microphone array, and the speech control unit being configured to discriminate between sounds originating from users who are located in front of each other relative the microphone array; ~~and~~

wherein the subsequent utterance originating from the second position will be discarded if not preceded by the recognition of the predetermined keyword originating from the second position; and

wherein the keyword recognition system is arranged to recognize the predetermined keyword that is spoken by another user and the speech control unit being arranged to control the beam forming module, on basis of this recognition, in order to enhance third components of the audio

signals which represent another utterance originating from a third orientation of the other user relative to the microphone array.

3. The ~~speech control unit~~ **system** as claimed in claim 1, wherein a first one of the microphones of the microphone array is arranged to provide the particular audio signal to the keyword recognition system.

4. The ~~speech control unit~~ **system** as claimed in claim 1, wherein the beam forming module is arranged to determine a first position of the user relative to the microphone array.

5. An apparatus comprising:
a ~~speech control unit~~ **system** for controlling the apparatus on basis of speech as claimed in claim 1; and
processing means for execution of the instruction being created by the speech control unit.

9. A method of controlling an apparatus on basis of speech, comprising the acts of:
receiving respective audio signals by means of a microphone array, comprising multiple microphones;

extracting a speech signal of a user, from the audio signals as received by the microphones, by means of enhancing first components of the audio signals which represent an utterance originating from a first position of the user relative to the microphone array;

recognizing a predetermined keyword that is spoken by based on a particular audio signal and controlling the extraction of the speech signal of the user, on basis of the recognition of the predetermined keyword, in order to enhance second components of the audio signals which represent a subsequent utterance originating from a second position of the user relative to the microphone array while discarding utterances of other users at other positions, the second position including an orientation and a distance relative to the microphone array so that sounds originating from users who are located in front of each other relative to the microphone array are discriminated;

creating an instruction for the apparatus based on recognized speech items of the speech signal; and

discarding the subsequent utterance originating from the second position if not preceded by the recognition of the predetermined keyword originating from the second position; **and**

recognizing the predetermined keyword that is spoken by another
and extracting a speech signal of the user, on basis of this recognition, in
order to enhance third components of the audio signals which represent

**another utterance originating from a third orientation of the other user
relative to the microphone array.**

In claims 10 – 14, and 20, line 1, replace "speech control unit" by -system-

Allowable Subject Matter

2. Claims 1, 3 – 20 are allowed over the prior art of record. The following is an examiner's statement of reasons for allowance:

After further search and thorough examination of the present application and in view of the applicant's arguments and appeal brief filed on 07/12/10, pages 11 - 17; claims 1, 3 – 20 are found to be in condition for allowance over the prior art made of record.

As to claims 1, 3 – 8, 10 – 14, and 20, neither Kaufholz nor Kataoka nor Rajan teach or suggest a keyword recognition system for recognition of a represented by a particular audio signal; a speech control unit being arranged to control the beam forming module, on basis of the recognition of the predetermined keyword, in order to enhance second components of the audio signals which represent a subsequent utterance originating from a second position of the user relative to the microphone array; wherein the recognition of the predetermined keyword at the second position calibrates the beam forming module to follow the user from the first position to the second position so that the subsequent utterance originating from the second position are accepted while

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utterances of other users at other positions are discarded, the second position including an orientation and a distance relative to the microphone array, and the speech control unit being configured to discriminate between sounds originating from users who are located in front of each other relative the microphone array; wherein the subsequent utterance originating from the second position will be discarded if not preceded by the recognition of the predetermined keyword originating from the second position; and wherein the keyword recognition system is arranged to recognize the predetermined keyword that is spoken by another user and the speech control unit being arranged to control the beam forming module, on basis of this recognition, in order to enhance third components of the audio signals which represent another utterance originating from a third orientation of the other user relative to the microphone array.

These limitations in conjunction with other limitations of the dependent and independent claims were not shown by, would not have been obvious over, nor would have been fairly suggested by the prior art of record.

As to claims 9, 15 - 19 neither Kaufholz nor Kataoka nor Rajan teach or suggest extracting a speech signal of a user, from the audio signals as received by the microphones, by means of enhancing first components of the audio signals which represent an utterance originating from a first position of the user relative to the microphone array; recognizing a predetermined keyword that is spoken by based on a particular audio signal and controlling the extraction of the speech signal of the user, on basis of the recognition of the predetermined keyword, in order to enhance second

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components of the audio signals which represent a subsequent utterance originating from a second position of the user relative to the microphone array while discarding utterances of other users at other positions, the second position including an orientation and a distance relative to the microphone array so that sounds originating from users who are located in front of each other relative to the microphone array are discriminated; creating an instruction for the apparatus based on recognized speech items of the speech signal; discarding the subsequent utterance originating from the second position if not preceded by the recognition of the predetermined keyword originating from the second position; and recognizing the predetermined keyword that is spoken by another user and extracting a speech signal of the user, on basis of this recognition, in order to enhance third components of the audio signals which represent another utterance originating from a third orientation of the other user relative to the microphone array.

These limitations in conjunction with other limitations of the dependent and independent claims were not shown by, would not have been obvious over, nor would have been fairly suggested by the prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEONARD SAINT CYR whose telephone number is (571) 272-4247. The examiner can normally be reached on Mon- Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571) 272-7602. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or (571)-272-1000.

LS
/Leonard Saint-Cyr/
Examiner, Art Unit 2626